Secret Sort for Geometry

Reporting Category Geometry

Topic Naming and identifying points, line segments, rays, angles, and lines

Materials

- Index cards
- Envelopes
- Chart paper
- Matching Cards (attached)

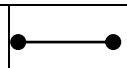
Vocabulary

point, line, line segment, ray, angle, endpoint, vertex, vertices

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

Note: Prepare for this activity by creating sets of sorting cards on index cards. Each set should include three or four examples for points, line segments, rays, angles, and lines.

1. Explain to students that they will be working in groups on a "Secret Sort." Put students into groups, and give each group an envelope of sorting cards. Each group must choose a way to sort the cards and then write a definition for each sorted pile of cards. Have each group discuss the rationales for their sorts and select a group representative to share the group's reasoning with the whole class. Record each group's responses on a chart, such as the following.

Group	Definitions				
					
1					
2					
3					
4					
5					

2. Guide students in deciding on a class definition for each of the figures. Explain the name of each, and emphasize the meaning of the name as it applies to the figure. Once students have created the class definitions, have them record this information in their math journals along with a drawing of each.

Assessment

- **Questions**
  - Where do you see line segments in the room?
  - What is a real-world example of a ray? Why is it a ray?

- **Journal/Writing Prompts**
    - Explain whether the angle and the ray have any common attributes, and illustrate your reasoning with a drawing.
    - Draw a picture that contains line segments, rays, points, and angles. Label each figure correctly.

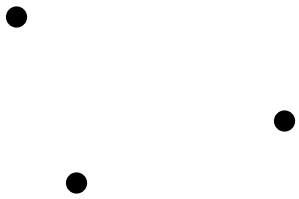
Extensions and Connections (for all students)

- Have students work in pairs to find the matches in the set of attached Matching Cards.

Matching Cards

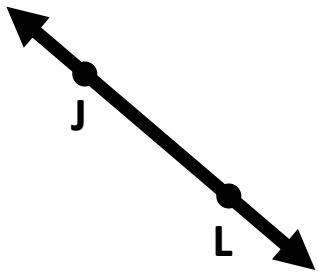
Print on card stock, cut out, and place in a baggie.

Point



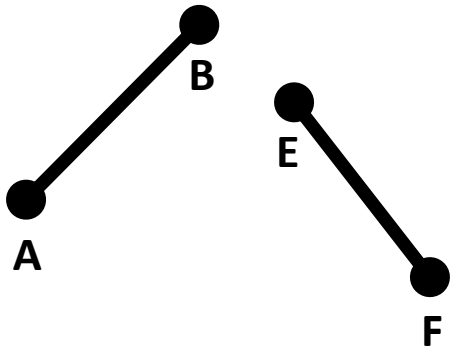
An exact location in space with no length or width.

Line



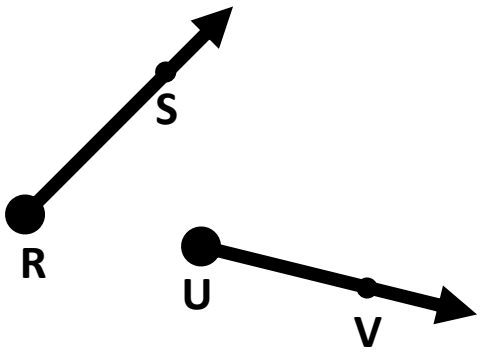
A collection of points going on and on infinitely in both directions

Line Segment



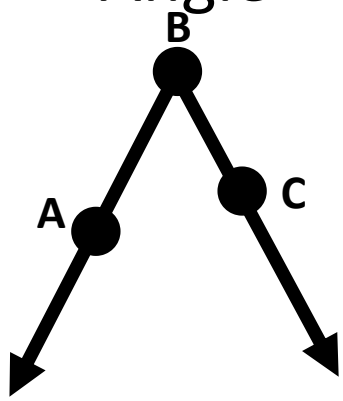
Part of a line; has two endpoints and includes all of the points between the two endpoints

Ray



Part of a line; has one endpoint and continues on and on in one direction.

Angle



Two rays that have a common endpoint.